

Energy and Climate Partnership of the Americas

# Needs and Priorities Assessment for Regional Cooperation in the Energy Transition \_\_

2030 ECPA Strategy for Regional Cooperation in the Clean Energy Transition



# 01) Executive Summary

# Promoting cooperation for a sustainable energy future in the Americas \_

#### **About ECPA**

The **Energy and Climate Partnership of the Americas** —a program of the OAS Department of Sustainable Development— promotes sustainable energy development in the region for a net-zero emissions future.

Our mission is to support member states in their transition to clean, resilient, and inclusive energy systems by providing a platform for multilateral coordination, public-private cooperation, and capacity building.

#### About this report

As the premier forum for clean energy, with representation from countries across the Americas, ECPA aims to spearhead initiatives that consider the priorities and challenges that characterize each subregion.

To this end, it launched an extensive consultation process in July 2021, with the participation of National Focal Points from 34 countries in Latin America, the Caribbean, and North America. The process included:

- An online survey to capture insights regarding national energy priorities, needs, areas of expertise, and best practices.
- Virtual events with national authorities and energy sector stakeholders to enhance understanding of key issues.
- Targeted meetings with national energy authorities to validate the findings of the consultation and allow for adjustments or updates.





Based on the information collected, the ECPA Technical Coordination Unit now has a database of great potential value for identifying synergies, facilitating cooperation on common interests, and establishing new partnerships between and among countries and stakeholders for sustainable energy development in the region.

The first phase of this survey concludes with the report "Needs and Priorities Assessment for Regional Cooperation in Energy Transitions." This report provides a systematic overview of the data collected and identifies the most critical issues to be addressed at the 2024 Ministerial Meeting in Punta Cana, which in turn will lay the groundwork for the 2030 ECPA Strategy for Regional Cooperation in the Clean Energy Transition.



# 02 Regional Outlook

The consultations that shaped this project focused on seven areas, which were recognized as key to advancing the energy transition in the region throughout the ECPA ministerial process and the IX Summit of the Americas, held in Los Angeles in 2022.



The information provided by the participating member states made it possible to conduct a regional analysis of the critical challenges in sustainable energy development and identify opportunities for cooperation among countries.

The following section reviews each field, listing the countries that expressed interest in cooperating in a particular area, as well as the specific issues that were highlighted as the most relevant.







#### 20 countries would like to cooperate in this area

Antigua and Barbuda	Ecuador	Panama
Argentina	Guatemala	Saint Lucia
Belize	Guyana	Saint Vincent and the Grenadines
Brazil	Haiti	Suriname
Costa Rica	Honduras	Trinidad and Tobago
Dominica	Jamaica	United States
Dominican Republic	Nicaragua	

#### **Trending priorities**

Battery energy storage

Accelerating utility-scale wind, solar, and biogas power



# **Energy Access & Security**



#### 15 countries would like to cooperate in this area

Argentina	Guyana	Panama
Belize	Haiti	Saint Lucia
Brazil	Honduras	Saint Vincent and the Grenadines
Dominica	Jamaica	Suriname
Guatemala	Nicaragua	United States

#### Trending priorities

Access to affordable, reliable, and modern energy

**Rural electrification** 







# **Energy Efficiency**



#### 15 countries would like to cooperate in this area

Antigua and Barbuda	Dominica	Panama
Belize	Dominican Republic	Peru
Brazil	Ecuador	Saint Lucia
Canada	Honduras	Saint Vincent and the Grenadines
Chile	Jamaica	Trinidad and Tobago

#### Trending priorities

Energy efficiency in public and private buildings



# **Energy Infrastructure**



#### 14 countries would like to cooperate in this area

Antigua and Barbuda	Dominica	Honduras
Argentina	Dominican Republic	Jamaica
Belize	Ecuador	Panama
Brazil	Guatemala	Uruguay
Costa Rica	Guyana	

#### **Trending priorities**

Resilient energy infrastructure Regional integration

Modernization of transmission and distribution grids

Integration of renewables into the grid

**Network digitalization** 





# **Electric Mobility**



#### 10 countries would like to cooperate in this area

Chile Honduras Peru

Dominican Republic Jamaica Saint Lucia

Guatemala Nicaragua

Haiti Panama

#### **Trending priorities**

Electrification of private and public transport

EV charging infrastructure



# Decarbonization



#### 10 countries would like to cooperate in this area

Brazil	Ecuador	United States of America
Canada	Guyana	Uruguay
Chile	Panama	
Dominican Republic	Trinidad and Tobago	

#### Trending priorities

Hydrogen Waste-to-energy

Carbon capture and sequestration



# 02

# **Crosscutting topics**



#### 20 countries would like to cooperate in this area

Antigua and Barbuda	Dominican Republic	Saint Lucia
Argentina	Ecuador	Saint Vincent and the Grenadines
Brazil	Guatemala	Suriname
Canada	Honduras	Trinidad and Tobago
Chile	Jamaica	United States of America
Costa Rica	Panama	Uruguay
Dominica	Peru	

## Trending priorities

A just energy transition

Social and economic impacts of energy transitions

Education and the energy transition

Nationally determined contributions (NDCs)

Nationally appropriate mitigation actions (NAMAs)

**Procurement** 



# (03) Insights by Country

The next section shows the information provided by each country, segmented by topic. It lays out the identified priorities, as well as the areas, technologies, and tools that each country is working on as part of its strategy to accelerate the energy transition.

The objective of this draft document is to encourage the exchange of information that will allow the data presented in this version to be updated.

	Antigua & Barbuda	10	Haiti	40
•	Argentina	13	:-: Honduras	41
	Belize	15	Jamaica	45
	Brazil	17	Nicaragua	48
(*)	Canadá	21	Panama	49
4	Chile	23	Peru	53
	Costa Rica	25	Saint Lucia	55
	Dominica	27	Saint Vincent and the Grenadines	57
4	Dominican Republic	30	Suriname	59
ğ	Ecuador	32	Trinidad & Tobago	60
(0)	Guatemala	35	United States	63
	Guyana	38	Uruguay	65







#### Priorities identified

Accelerating utility-scale wind, solar, and biogas power: Switching to hybrid energy sources (wind and solar energy projects).

Switching to LNG.

Specific areas, technologies, or tools the country is exploring

The Green Barbuda project.

Additional resources are needed to acquire solar and wind energy infrastructure as well as battery storage, particularly to meet forecasted energy demand, including the transition to electric vehicles.

On Antigua, accelerating utility-scale renewable energy integration will require investments in the physical upgrading of the grid as well as load flow, short circuit, transient stability analysis, and frequency stability analysis studies.

Introduction of natural gas as a source for electricity generation is underway. The switch to LNG will benefit from the experience of other territories and countries, including the USA and USVI.

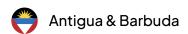
# **Energy Efficiency**



#### Priorities identified

Energy efficiency programs in public and private buildings.







#### Specific areas, technologies, or tools the country is exploring

Energy audits in government buildings, followed by training provided to staff on efficient energy consumption.

Retrofitting of equipment, particularly lighting.

Public awareness: Radio, television and schools.

Regional standards for energy efficiency in buildings and appliances currently being utilized. Energy efficiency testing of electrical equipment.

#### **Energy Infrastructure**



#### Priorities identified

Strong, flexible, and integrated grid to accommodate renewable energy and other cleaner sources.

LNG infrastructure.

#### Specific areas, technologies, or tools the country is exploring

Modernization of transmission and distribution grids.

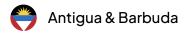
Shift to underground cabling in some areas, particularly commercial areas, as well as Barbuda.

Training and capacity building on climate resilience to extreme weather events and other natural and man-made emergency events.

Introduction of natural gas as a source of electricity generation is underway and is forecast to significantly reduce greenhouse gas emissions in the electricity sector.

Efforts are underway for a phased transition to 100% green energy on Barbuda using solar, wind, and battery storage with stand-by diesel as an emergency option.





# **Electric Mobility**



Specific areas, technologies, or tools the country is exploring

Discussions underway at regional and subregional levels on developing integrated strategies for public e-mobility, taking into consideration current and planned energy futures.

Incentives include reduction of import tariffs on electric vehicles.

Additional support for RE-powered charging stations.

## **Crosscutting topics**

#### **Priorities identified**

Social and economic impacts of energy transitions: Post-pandemic economic recovery, green jobs, etc.

Education and the energy transition: Training, skills development, behavioral changes, etc.

Implementation of NAMAs.

Implementation of NDCs.

Specific areas, technologies, or tools the country is exploring

NAMAs: Cooperation through the OECS Commission in facilitating the documentation and project preparation processes necessary for developing and implementing NAMA initiatives.







#### Priorities identified

Accelerating utility-scale wind, solar, and biogas power: Renewable electricity generation and grid integration.

Specific areas, technologies, or tools the country is exploring

Distributed generation and fiscal incentives with a focus on provinces.

# Energy Access & Security



#### Priorities identified

Access to affordable, reliable, and modern energy: Social tariffs and subsidies.

Access to renewable energy and natural gas in isolated rural markets.

Specific areas, technologies, or tools the country is exploring

Distributed generation and fiscal incentives with a focus on provinces.

## **Energy Infrastructure**



Page 13







#### **Priorities identified**

Electricity interconnection.

Natural gas infrastructure.

Specific areas, technologies, or tools the country is exploring

Electricity interconnection: Enhancing power transmission and interconnectivity.

Extension of natural gas distribution infrastructure.

## **Crosscutting topics**

#### **Priorities identified**

Social and economic impacts of energy transitions: Post-pandemic economic recovery, green jobs, etc.

Education and the energy transition: Training, skills development, behavioral changes, etc.

Implementation of NDCs.

Specific areas, technologies, or tools the country is exploring

Social and economic impacts of energy transitions: Rebuilding labor markets.

Nationally determined contributions: Accelerate implementation of NDCs and develop long-term strategies.





# Belize

# Areas in which the country wishes to cooperate ↓

# Clean energy



#### Priorities identified

Generation of renewable energy from local resources.

Creation of new opportunities in LNG and waste-to-energy.

Specific areas, technologies, or tools the country is exploring

Implementation of hydropower, solar, wind, and biomass, including in the tourism sector.

Implementation of an interconnection policy and regulatory framework to facilitate distributed renewable power generation.

Expansion of biomass use, including bagasse, for electricity generation.

Take 2MW diesel generation offline by 2022 and convert new LPG generation to CNG by 2026.

# **Energy Access & Security**



Specific areas, technologies, or tools the country is exploring

Deployment of microgrids for energy access.

## **Energy Efficiency**









#### Priorities identified

Improve energy efficiency and conservation in public and private buildings by at least 10% by 2030.

Specific areas, technologies, or tools the country is exploring

Appliance efficiency in public buildings.

Implementation of building code standards and labels.

# **Energy Infrastructure**



#### Priorities identified

Construction of a connection to SIEPAC [Central American Electrical Interconnection System].







#### **Priorities identified**

Expansion of nuclear power.

Expansion of bioenergy.

Specific areas, technologies, or tools the country is exploring

Promotion of RenovaBio Program.

Construction of new nuclear plants and development of small modular reactors (SMRs.)

# **Energy Access & Security**



#### Priorities identified

Energy poverty.

Increase the number of people connected to the grid.

Specific areas, technologies, or tools the country is exploring

Expand "More Light for the Amazon" Program.

Increase by 16% the number of residential electricity consumers on the grid, equivalent to 12 million additional connections over the next 10 years.







Initiatives that will adapt institutional, legal, and regulatory frameworks to guarantee universal access to modern, clean, and accessible energy sources, in line with the Sustainable Development Goals established by the United Nations.

# **Energy Efficiency**



#### **Priorities identified**

Decarbonization through EE.

Specific areas, technologies, or tools the country is exploring

Building labeling policies endorsed by the Brazilian Building Labeling Program (PBE Edifica) and the Procel Edifica Seal to help reduce residential energy demand.

Strategic plan of long-term actions for the efficient use of energy in various sectors of society.

# **Energy Infrastructure**



#### Priorities identified

Promotion of regional energy integration.

Expansion of wind and solar energy to 40 GW installed capacity within the next 10 years.

Modernization of the energy sector.

Promotion of the RenovaBio program.

Development of stable and transparent regulatory frameworks that foster energy infrastructure growth.







#### Specific areas, technologies, or tools the country is exploring

Electrical and gas interconnections in South America.

Studies to prepare for and optimize the transmission of electricity from new or expected power generation sources, focusing on the main transmission lines of the power grid. (This kind of planning is crucial to ensure that future energy production can be effectively and efficiently distributed to meet demand.)

#### Decarbonization



#### **Priorities identified**

Carbon capture and sequestration: Pro Bio CCS.

Waste-to-energy.

Promotion of hydrogen.

Program for the sustainable use of national coal resources.

Specific areas, technologies, or tools the country is exploring

Regulation of capture activities and geological storage of carbon dioxide (CO2) from various stationary sources.

Auction to contract projects for energy use of urban solid waste.

Establishment of the National Hydrogen Program.

Structuring of the broader carbon market in Brazil so that there can be long-term price signals and lower emission abatement costs.

# Crosscutting topics







#### Priorities identified:

Contributions to the NDCs.

Specific areas, technologies, or tools the country is exploring

Integration of energy and transportation policies with a view to reducing emissions.

Implementation of carbon pricing mechanisms and payment for environmental services programs.

Expansion of waste-to-energy applications.

Promotion of innovative low-carbon technologies such as hydrogen and green diesel.

Implementation of renewable sources, including hydroelectricity, energy efficiency, biofuels, and nuclear.







#### **Priorities identified**

Energy efficiency in homes.

Net-zero emissions.

Specific areas, technologies, or tools the country is exploring

CAN\$4.4 billion to help Canadian homeowners complete deep home retrofits through interest-free loans.

#### Decarbonization



#### **Priorities identified**

Reduce emissions from hard-to-abate sectors.

Specific areas, technologies, or tools the country is exploring

Support is provided to large emitters to decarbonize and help transform key sectors such as steel, aluminum, and cement industries.

Increases in carbon pricing to 2030.

# **Crosscutting topics**







#### **Priorities identified**

Ensure the net-zero transition is just and equitable for everybody.

Specific areas, technologies, or tools the country is exploring

"Equal by 30" campaign with the goal of equal pay, equal opportunity, and equal leadership by 2030.

"Just Transition Engagement" campaign to hold consultations with workers, communities, provinces and territories, indigenous people, businesses, and stakeholders to ensure our net-zero transition is just and equitable for everyone.

"Empowering People" initiative to empower people and promote just and equitable transitions by advancing skills, inclusivity, and workforce development.





Areas in which the country wishes to cooperate ↓

# Clean energy



Priorities identified

Battery storage.

Specific areas, technologies, or tools the country is exploring

Strategies and technologies are being explored for the conversion of thermal power plants.

# **Energy Efficiency**



Priorities identified

Energy efficiency in homes and industries.

Specific areas, technologies, or tools the country is exploring

Improving energy efficiency standards and labels for household appliances.

Energy management systems, technology replacement for SMEs, and minimum engine standards.

# **Electric Mobility**









#### Priorities identified

Electrification of public and private transport in the metropolitan region and other regions (private vehicles, commercial vehicles, taxis, and buses.)

Specific areas, technologies, or tools the country is exploring

Deployment of adequate EV charging infrastructure.

#### Decarbonization



#### Priorities identified

Green hydrogen development.

Phase-out of coal in the power sector.

Specific areas, technologies, or tools the country is exploring

Decommissioning of diesel replacement plants in road freight transport.

Phase-out of diesel engines in mining and industry.

Phase-out of natural gas for residential and commercial uses.

# **Crosscutting topics**

Specific areas, technologies or tools the country is exploring

Development of technical skills and human capital to support the hydrogen industry.







#### Priorities identified

Development of battery energy storage to support a larger installed capacity of variable and distributed renewable energy resources.

Accelerate the uptake of utility-scale wind, solar, and biogas power.

# **Energy Infrastructure**



#### **Priorities identified**

Network digitalization.

Specific areas, technologies, or tools the country is exploring

Digitalization and automation of smart electric grids.

# **Electric Mobility**



#### Priorities identified

Electrification of public and private transport.







Specific areas, technologies, or tools the country is exploring

Technological innovation and digitalization in public and private transport.

# **Crosscutting topics**

#### Priorities identified

Air quality and health in the energy transition.

Just energy transition: Access, knowledge, gaps, and opportunities.

Post-pandemic economic recovery and green jobs.

Education and the energy transition: Training, skills development, behavioral changes, etc.

Specific areas, technologies, or tools the country is exploring

Social and economic impact assessment of decarbonization in the labor market.







#### Priorities identified

Development of a renewable energy sector based on a mix of hydro, geothermal, solar, and wind resources.

Specific areas, technologies, or tools the country is exploring

Fully established renewable energy development framework.

Operationalization of private sector initiatives in renewable energy.

# **Energy Access & Security**



#### Priorities identified

Development of indigenous renewable and sustainable energy resources.

Specific areas, technologies, or tools the country is exploring

Access to affordable, reliable, and modern energy.

# **Energy Efficiency**









#### Priorities identified

Energy management and energy efficiency.

#### Specific areas, technologies, or tools the country is exploring

Implement a framework and tools for energy management in all energy service value chains.

Pursue energy efficiency programs for both the public and private sector.

# **Energy Infrastructure**



#### Priorities identified

Resilient energy infrastructure: Bolster and continuously improve the resilience of the energy sector.

Other: Improve the quality of infrastructure.

#### Specific areas, technologies, or tools the country is exploring

Resilient energy infrastructure: Development of the energy sector with a focus on a mix of hydro, geothermal, solar, and wind.

Deployment of distributed energy service provision with storage.

Quality and standards in the energy services sector to enhance safe, reliable, and affordable utilization of energy services.

# **Crosscutting topics**







#### Priorities identified:

Gender-equitable energy transition: Affirm and support the role of women in the energy sector.

Social and economic impacts of energy transitions: Address fiscal and pricing issues.

Institutional and human capacity development in the public and private sectors and civil society.

Specific areas, technologies, or tools the country is exploring

Social and economic impacts of energy transitions: Alignment of the structure and operations in the energy sector with Dominica's national policy objectives.

Education and the energy transition: Enhance the capacity of the Energy Unit in terms of skills, experience, and resources to fulfill its role as custodian of the national energy policy.







#### Priorities identified

Battery energy storage: Flexibilization of electrical systems.

Specific areas, technologies, or tools the country is exploring

Deployment of renewable energy storage systems.

Use of natural gas.

## **Energy Efficiency**



#### Priorities identified

Technical and financial resources to advance energy efficiency in public and private buildings.

Technical and financial resources for advisory services in the discussions of the Energy Efficiency Bill, which aims to establish the legal/regulatory framework for the promotion and encouragement of energy efficiency and conservation.

Specific areas, technologies, or tools the country is exploring

Development of energy management systems in public buildings.

Training of internal auditors in ISO 50001, 90001, and 50002.

Development of energy efficiency codes for household appliances and residential, commercial, and industrial buildings.





# **Energy Infrastructure**



#### **Priorities identified**

Climate-resilient energy infrastructure.

Integration of renewables to the grid.

Network digitalization: Flexibilization of electricity systems.

Tariff regulations.

Specific areas, technologies, or tools the country is exploring

Flexibilization of electricity systems through the use of natural gas, digitalization development, and deployment of renewable energy storage systems.

Revision of technical standards for connection and operation of non-variable renewable energy plants.

Tariff studies.





Areas in which the country wishes to cooperate ↓

# Clean energy



#### **Priorities identified**

Battery storage.

Electricity generation with emphasis on renewable energy resources.

Specific areas, technologies, or tools the country is exploring

To ensure the continued supply of electricity to the isolated Galapagos system, investment is being made in a battery system to store energy from renewable sources.

Encourage private sector participation through public procurement processes.

# **Energy Efficiency**



#### Priorities identified

Energy efficiency in public and private buildings.

Specific areas, technologies, or tools the country is exploring

Implementation of Energy Management Systems (EnMS) in buildings and industry.

Inefficient household appliances swap.

General Regulation of the Organic Law on Energy Efficiency is in the process of being approved.





# **Energy Infrastructure**



#### Priorities identified

Resilient energy infrastructure: Resilience of the electricity sector/generation, transmission, and distribution infrastructure.

Specific areas, technologies, or tools the country is exploring

Comprehensive risk management plan for the electricity sector.

## Decarbonization



#### **Priorities identified**

Hydrogen.

Specific areas, technologies, or tools the country is exploring

Hydrogen: Exchange of experiences with countries in the region to assess opportunities for electricity market penetration.

# **Crosscutting topics**

#### **Priorities identified**

Air quality and health in the energy transition: Fuel quality improvement.







Promotion of equitable gender participation.

Preferential treatment for attracting investment in the electricity system.

Establishment of higher education guidelines to drive the energy transition.

Identification of financial resources to enable the implementation of the actions envisaged in the NDC conditional scenario.

Specific areas, technologies, or tools the country is exploring

Fuel quality improvement program.

All energy and environment programs achieve equal gender participation.

Financial incentives for using non-conventional renewable energy and for adopting energy efficiency in different sectors.

Through the National Energy Efficiency Committee, establishment of guidelines for higher education to promote the energy transition through renewable energy and energy efficiency.

Ecuador's NDCs have attracted private investment and international cooperation in energy efficiency and renewable energy. In addition, the NDC is permanently monitored.







#### Priorities identified

Accelerating utility-scale wind, solar, and biogas power: Expansion of the power generation system.

Natural gas as a transition fuel.

Specific areas, technologies, or tools the country is exploring

Promotion of investments in renewable energy electricity generation, prioritizing technologies with the potential to deliver firm power and energy to the system.

Assessment of geothermal, hydro, or biogas renewable energy generation potential in 2020-2025, solar in 2024-2027, and wind in 2027-2035.

Assessment of the use of national natural gas resources for electricity generation (Department of Petén.)

# **Energy Access & Security**



#### Priorities identified

Rural electrification and increased coverage: Rural electrification expansion plan.

Specific areas, technologies, or tools the country is exploring

Rural access: Development of mini- and micro-hydropower.





#### Guatemala



Grid connection, isolated systems, and self-producing users: Technical criteria for access to transmission and distribution networks.

Micro-substations, isolated microgrids with potential for grid connectivity and microgeneration with emphasis on hydropower.

Improve inter-institutional procedures associated with rural electrification requests. A new system of contributions for new applications is also envisaged.

# **Energy Infrastructure**



#### Priorities identified

Regional integration: Expansion of the energy transmission system.

Modernization of transmission and distribution grids.

Integration of renewables to the grid.

#### Specific areas, technologies, or tools the country is exploring

Create the necessary conditions for energy integration by taking advantage of existing interconnections and possible future extensions or interconnections with potential to export energy.

Use of natural gas as a transitional energy source.

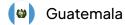
Regional integration: Improve the performance of both the domestic network and bilateral interconnections, encouraging international transactions and fostering foreign investment.

Propose the necessary grid reinforcements to ensure operational security, expand the coverage rate, and improve the quality of electricity service.

Reduce greenhouse gas emissions associated with losses in the electricity transmission system.

Integration of renewables to the grid.





# **Electric Mobility**



Specific areas, technologies, or tools the country is exploring

Electrification of public and private transport.

EV infrastructure.

## **Crosscutting topics**

**Priorities identified** 

Promoting energy as a component of social development.

Conception of the electricity grid as a strategic and crosscutting asset for economic recovery.

Specific areas, technologies, or tools the country is exploring

Expansion of the share of renewable energy in the energy mix, taking into account citizen participation, including Mayan, Xinka, and Garifuna peoples, and promoting gender equity.







#### **Priorities identified**

Accelerating utility-scale wind, solar, and biogas power: Program to develop an energy mix that includes hydropower, gas, solar, and wind.

Specific areas, technologies, or tools the country is exploring

Investments in solar and wind systems in off-grid, isolated areas.

Amaila Falls hydroelectric project.

Installation of 400 megawatts of new installed capacity, including hydro, solar, wind, and natural gas.

# **Energy Access & Security**



#### Priorities identified

Expansion of hinterland electrification program.

Specific areas, technologies, or tools the country is exploring

Rural microgrids.

Replacement and upgrade of solar panels.





# **Energy Infrastructure**



#### **Priorities identified**

Regional integration.

Modernization of transmission and distribution grids: Low Carbon Development Strategy.

Specific areas, technologies, or tools the country is exploring

Regional integration: Partnership with Brazil and Suriname to create a new energy corridor.

Outline of a clear path to becoming a net energy exporter.

Modernization of transmission and distribution grids: Improvement and upgrades to the national grid (transmission and distribution).

### Decarbonization



### Priorities identified

Low Carbon Development Strategy.

Specific areas, technologies, or tools the country is exploring

Update of the Low Carbon Development Strategy.





# Haiti

Areas in which the country wishes to cooperate ↓

# Clean energy



Priorities identified

Solar energy.

# Energy Access & Security



Specific areas, technologies, or tools the country is exploring

Sustainable rural energy.







#### Priorities identified

Accelerating utility-scale wind, solar, and biogas power: Use of resources to develop bioenergy.

Specific areas, technologies, or tools the country is exploring

Accelerating utility-scale wind, solar, and biogas power: National Bioenergy Program.

# **Energy Access & Security**



### Priorities identified

Access to affordable, reliable, and modern energy: Universal energy access.

Specific areas, technologies, or tools the country is exploring

Access to affordable, reliable, and modern energy: Social Electrification Law.

Social electrification program with a focus on health and education.

Efficient cookers.

Distributed generation and isolated systems.

Microgrids.





# **Energy Efficiency**



#### Priorities identified

Energy efficiency policy.

Efficient energy sector.

Energy management systems.

### Specific areas, technologies, or tools the country is exploring

Reduction of technical and non-technical losses in the electricity grid.

Implementation of energy management systems in buildings and industries.

Corporate social responsibility.

## **Energy Infrastructure**



#### Priorities identified

Infrastructure modernization and resilience.

### Specific areas, technologies, or tools the country is exploring

Access to and promotion of direct generation, and use of renewable energy at the national level.

Strengthen transmission lines at national level for electricity supply.





## **Electric Mobility**



#### **Priorities identified**

Promote a strategy to encourage electromobility.

Specific areas, technologies, or tools the country is exploring

Enabling regulatory frameworks.

## **Crosscutting topics**

#### **Priorities identified**

Air quality and health in the energy transition.

Gender and equitable energy transition: Access, knowledge, gaps, and opportunities.

Social and economic impacts of energy transitions: Post-pandemic economic recovery and green jobs.

Education and the energy transition: Training, skills development, behavioral changes, etc.

Specific areas, technologies, or tools the country is exploring

Promotion of the use of biogas in clean cooking.

Gender inclusiveness in the energy sector.

Community relations for the socialization and construction of tools for conflict prevention and stakeholder participation.







Incorporation and relations with indigenous and Afro-Honduran peoples in energy projects.

Education program on energy efficiency and rational use of electricity.







#### **Priorities identified**

Greater diversification to increase the share of renewables and LNG (Integrated Resource Plan).

Incorporate regional best practices focused on clean energy solutions to advance sustainable energy legislation and implement national planning tools that prioritize renewable and low-carbon technologies.

Specific areas, technologies, or tools the country is exploring

Renewable energy procurements.

Complete ongoing studies and leverage investments focused on clean energy.

### **Energy Access & Security**



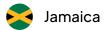
### **Priorities identified**

Access to affordable, reliable, and modern energy: Improved regulations for energy access.

Specific areas, technologies, or tools the country is exploring

Access to affordable, reliable, and modern energy: Review of the Electricity Act 2015 and related regulations.





# **Energy Infrastructure**



#### **Priorities identified**

Modernization of transmission and distribution grids: Improvement of electricity infrastructure.

Specific areas, technologies, or tools the country is exploring

Critical infrastructure assurance considerations such as interdependencies.

Plan to reduce non-technical losses and assess distribution system operations.

# **Electric Mobility**



### Priorities identified

EV infrastructure: Improve mobility infrastructure.

Specific areas, technologies, or tools the country is exploring

Electric mobility policy framework and incentives.

Partnerships with utilities and the private sector to boost the deployment of EVs and charging infrastructure.

## **Crosscutting topics**

**Priorities identified** 







Gender-equitable energy transition.

Improve economic growth and support business continuity and recovery.

Updates of nationally determined contributions.

Specific areas, technologies, or tools the country is exploring

Jamaica's National Gender Policy requires 30% inclusion of females in Councils and Boards.

Social and economic impacts of energy transitions.

Achievement of progress in keeping with updated NDCs.







#### Priorities identified

Accelerating utility-scale wind, solar, and biogas power: Transformation of the energy mix.

# Energy Access & Security



Specific areas, technologies, or tools the country is exploring

Access to affordable, reliable, and modern energy: Increased electricity coverage.

## **Electric Mobility**



### Priorities identified

Electrification of public and private transport.

EV infrastructure.







#### Priorities identified

Decarbonization of the economy.

Specific areas, technologies, or tools the country is exploring

Distributed generation strategy.

Update regulatory framework and policy for the consolidation of the Energy Hub (gas, renewables, and hydrogen).

# **Energy Access & Security**



#### Priorities identified

Rural electrification.

Specific areas, technologies, or tools the country is exploring

Implementation of new cooking technologies.

# **Energy Efficiency**









#### Priorities identified

Energy efficiency in public buildings and homes.

Specific areas, technologies, or tools the country is exploring

Programs and regulations for energy managers.

Energy end-use monitoring.

## **Energy Infrastructure**



### **Priorities identified**

Innovation of the national interconnected system for the electricity sector.

Specific areas, technologies, or tools the country is exploring

Increased flexibility and storage capacity.

Interconnection with Colombia and the Central American isthmus.

Smart transmission and distribution networks.

Energy quality.

Legislation and institutional framework.

LNG legislation / LNG export regulations.

National Hydrocarbon Policy.





# **Electric Mobility**



#### Priorities identified

Private electric mobility.

Specific areas, technologies, or tools the country is exploring

Amendment to regulatory frameworks to include rules and regulations for electric mobility.

### Decarbonization



### Priorities identified

Decarbonization of the economy.

Specific areas, technologies, or tools the country is exploring

Development of green hydrogen.

## **Crosscutting topics**

### **Priorities identified**

Gender-equitable energy transition: Access, knowledge, gaps, and opportunities.

Education and the energy transition: Training, skills development, behavioral changes, etc.







Specific areas, technologies, or tools the country is exploring

Women-energy nexus.

Empowerment of community leaders for the management of energy supply systems.

Education, promotion, and dissemination of rational energy use and efficiency measures.







#### **Priorities identified**

Promotion of energy efficiency in public and private buildings.

### Specific areas, technologies, or tools the country is exploring

Energy efficiency in public and private buildings: Energy audits.

Replacement of energy equipment.

Natural gas vehicles.

Standards and labels for energy efficiency.

Education and awareness on energy consumption habits.

Energy efficiency consultants and training of energy service companies.

Development of energy consumption indicators for the industrial and service sectors.

# **Electric Mobility**



### Priorities identified

Electrification of public and private transport.

Development of policies for the promotion of electric mobility.







Specific areas, technologies, or tools the country is exploring

Development of standards and regulations for charging infrastructure and electricity supply.

Financial incentives.

# **Crosscutting topics**

### **Priorities identified**

Air quality and health in the energy transition: Ensure timely and effective participation, taking into account intercultural approaches.

Gender-equitable energy transition: Access, knowledge, gaps, and opportunities.







#### Priorities identified

Inclusion of renewable energy in the electricity generation mix.

Specific areas, technologies, or tools the country is exploring

Viability of geothermal energy development.

Enable business environment for private sector investment.

# **Energy Access & Security**



#### Priorities identified

Energy market reform.

Revision of the National Energy Policy.

Specific areas, technologies, or tools the country is exploring

Improve reliability and affordability of energy systems.

Cost containment (reduce cost, ensure financial viability).

## **Energy Efficiency**









#### Priorities identified

Energy efficiency in public buildings.

Fleet energy transition.

Specific areas, technologies, or tools the country is exploring

Audits on energy efficiency in public buildings.

# **Electric Mobility**



### Priorities identified

Electrification of public transport.

# **Crosscutting topics**

### Priorities identified

Nationally appropriate mitigation actions (NAMAs) for Saint Lucia's schools







#### Priorities identified

Exploration and development of our natural renewable energy resources.

Specific areas, technologies, or tools the country is exploring

Encourage research and exploration of renewable sources of energy.

Encourage production and use of renewable energy.

# **Energy Access & Security**



### Priorities identified

Development and utilization of our indigenous energy resources.

# **Energy Efficiency**



#### **Priorities identified**

Energy efficiency in public buildings.

Specific areas, technologies, or tools the country is exploring

Energy efficiency retrofits of government buildings.





Saint Vincent and the Grenadines

Crosscutting topics

**Priorities identified** 

Gender roadmap.







#### Priorities identified

Access to renewable energy for hinterland villages.

Specific areas, technologies, or tools the country is exploring

Solar plants for rural communities (solar and diesel generators).

Micro- and mini-hydropower systems.

Development of a wind power map.

# **Energy Access & Security**



#### Priorities identified

Update power market regulations.

Access to affordable, high-quality alternative sources of energy for households.

Specific areas, technologies, or tools the country is exploring

Payment schemes.







#### **Priorities identified**

Development of renewable energy.

### Specific areas, technologies, or tools the country is exploring

Accelerating utility-scale wind, solar, and biogas power: Solar installations in public buildings.

112 MW utility-scale solar power generation.

Resource assessments for wind and solar energy.

Policies to support grid integration.

# **Energy Efficiency**



### Priorities identified

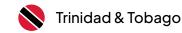
Energy efficiency and conservation of public and private buildings.

Energy efficiency for the transport sector.

Specific areas, technologies, or tools the country is exploring

National LED bulb replacement.







Development of energy efficiency building codes.

Implementation of public procurement measures and incentives.

Energy efficiency in homes: Implementation of minimum energy performance standards and labeling.

Refrigeration and air conditioning market assessments.

Public awareness campaigns to mobilize citizens to be more resource-conscious.

RAC applications on transport.

### Decarbonization



#### Priorities identified

Hydrogen development as a strategy for decarbonization.

Decarbonization of three main sectors: Power generation, transport, and industry.

Specific areas, technologies, or tools the country is exploring

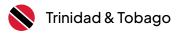
Electric vehicles deployment, including an e-mobility policy.

Monitoring, Reporting, and Verification (MRV) system to track the progress of efforts to reduce greenhouse gas emissions in T&T.

## **Crosscutting topics**

#### **Priorities identified**







Policy for workers in carbon-intensive industries.

Education, training, and public awareness for the energy transition.

Enhancement of nationally determined contributions.

Specific areas, technologies, or tools the country is exploring

Social and economic impacts of energy transitions: Retooling and re-skilling for net-zero transition.

Nationally determined contributions: Strategic focus on electric power generation, waste and wastewater, agriculture, forestry, and other land-use sectors.







#### Priorities identified

Energy access to rural and other isolated communities.

Specific areas, technologies, or tools the country is exploring

Launch Energy Transitions Initiative.

## **Energy Infrastructure**



### Priorities identified

Infrastructure and innovation to fuel economic recovery that creates jobs.

## Decarbonization



Priorities identified

Clean hydrogen.





# **Crosscutting topics**

**Priorities identified** 

Post-pandemic economic recovery.

Specific areas, technologies, or tools the country is exploring

Social and economic impacts of energy transitions: Actions focused on financing, supporting green jobs, and economic transitions.

Developing a clean-energy workforce.

Justice 40.

STEM education programs.

Behavioral change related to energy and climate: The Energy Transitions Initiative (ETI).

Increase NDCs to address the climate crisis.





# **Energy Infrastructure**



Priorities identified

Regional integration.

## **Electric Mobility**



Priorities identified

Electrification of buses, taxi cabs, and commercial vehicles.

EV technological infrastructure.

## Decarbonization



Priorities identified

Green hydrogen.

Decarbonization of industrial thermal uses.

Specific areas, technologies, or tools the country is exploring









Long-term strategy for green hydrogen development.

First H2 pilot for local use associated with heavy weight load transport demand.

Evaluation of hydrogen export potential.

Development of critical hydrogen infrastructure.

## **Crosscutting topics**

### Priorities identified

Post-pandemic economic recovery, green jobs.

Education and the energy transition: Training, skills development, behavioral changes, etc.

NAMAs.





